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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,673	03/15/2002	Willy Marrecau	016782-0244	7702

22428 7590 03/11/2003

FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

TRAN, DIEM T

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,673

Applicant(s)

MARRECAU, WILLY

Examiner

Diem Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Sekhar et al. (US Patent 5,655,212).

Regarding claim 1, Sekhar discloses a method of regeneration a filter of diesel exhaust particulate filter system, said method comprising as steps:

- a/ providing a porous membrane (see col. 7, lines 57-61);
- b/ using said membrane as filter during a filtration period (see col. 7, lines 57-67, col. 8, lines 1-3);
- c/ using said membrane as a surface combustion burner membrane during a regeneration period following said filtration period (see col. 8, lines 45-50).

Regarding claim 2, Sekhar discloses a method of regeneration a filter of diesel exhaust particulate filter system, said method comprising as steps:

- a/ providing at least two porous membranes (see col. 16, lines 58-60);
- b/ using at least one of said membranes as filter during a filtration period; and
- c/ using at least one of remaining membranes as a surface combustion burner membrane during a regeneration period following said filtration period which overlaps with said filtration period (see col. 24, lines 45-53).

Regarding claims 3, 9, Sekhar further discloses the membrane being a stainless steel fiber web (see col. 18, lines 44-47).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 6, 7, 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekhar et al. (US Patent 5,655,212) in view of Sato et al. (US Patent 4,535,588).

Regarding claims 4, 10, 11, Sekhar discloses all the claimed limitations as discussed in claims 1-3 above, however, fails to disclose step of providing fuel to said membrane during the regeneration period. Sato teaches that it is conventional in the art, to provide fuel to the filter during regeneration period (see col. 5, lines 27-44).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have supplied fuel to the filter during regeneration period as taught by Sato in the Sekhar method for more efficiently providing heat to burn the particulates collected in the trap and to improve the regeneration of the particulate trap.

Regarding claims 6, 12, 13, Sekhar discloses all the claimed limitations as discussed in claims 1-3 above, however, fails to disclose the step of monitoring the pressure across said membrane during the filtration period. Sato teaches that it is

conventional in the art, to monitor the pressure across said membrane during filtration period (see col. 5, lines 20-39).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have monitored the pressure across said membrane as taught by Sato in the Sekhar method for more efficiently determining the timing for regeneration of the particulate trap.

Regarding claim 7, Sato further teaches the step of generating a control signal to regenerate said membrane, once the pressure across said membrane exceeds a predetermined level (see col. 5, lines 31-39).

Regarding claims 14, 15, Sato further teaches the step of monitoring the pressure across said membrane during the filtration period (see col. 5, lines 20-39).

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekhar et al. (US Patent 5,655,212) in view of Sato et al. (US Patent 4,535,588) as applied to claim 4 above, and further in view of Shinzawa et al. (US Patent 4,567,725).

The modified Sekhar method discloses all the claimed limitations as discussed in claim 4 above, however, fails to disclose that the amount of fuel provided is reduced after initiation of a flame at said filter during said regeneration period. Shinzawa teaches that it is conventional in the art, to reduce the amount of fuel provided after initiation of a flame at said filter during said regeneration period (see col. 19, lines 7-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have reduced the amount of fuel as taught by Shinzawa in the

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modified Sekhar method for decreasing the amount of fuel consumption during the regeneration process.


Conclusion

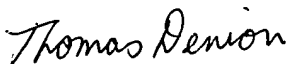
Any inquiry concerning this communication from the examiner should be directed to Examiner Diem Tran whose telephone number is (703) 308-6073. The examiner can normally be reached on Monday -Friday from 8:30 a.m.- 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (703) 308-2623. The fax number for this group is (703) 308-7763.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

DT
March 5, 2003


Diem Tran
Patent Examiner
Art unit 3748


THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700